REMARKS

Claims 1-5 and 7-11 are in this application and are presented for consideration. Claims 1 and 3 have been amended, and new claims 10 and 11 have been added.

The claims have been amended to address the Examiner's objections, incorporate the Examiner's suggestions and to place the application in better form. The claims have also been amended to further highlight and more clearly point out the important features of the invention.

In particular claim 1 has been amended to set forth that the two pavilion main facets positioned opposite to each other with respect to the central axis and a table facet cross vertically one of the second eight-dividing planes, and that two crown main facets positioned opposite to each other with respect to the central axis and the table facet cross vertically one of the first eight-dividing planes. The former is described in the specification at paragraph [0047] and other places, and the latter is in the specification at paragraphs [0037], [0038], [0047] and other places.

Claims 1, 2 and 4-9 have been rejected as being obvious over Itzkowitz '219 in view of Kedem '275.

Claim 1 and new independent claim 10 set forth a first set of dividing planes, and a second set of dividing planes. The first set of dividing planes include one long plane having the long axis, a short plane having the short axis, and planes between the long and short planes. The second set of dividing planes are positioned between adjacent planes of the first set of dividing planes. An embodiment of this is shown in the drawings where the first set of dividing planes are shown by reference 170, and the second set of dividing planes are shown

by 180.

The rejection acknowledges that Itzkowitz fails to disclose the second set of dividing planes. The rejection does not appear to indicate where in Kedem the second set of dividing planes are disclosed. Therefore the rejection is untenable.

Even if Kedem discloses the second set of dividing planes, any second set of dividing planes in Kedem does not have all the features of the second set of dividing planes as set forth in claims 1 and 10. In particular these claims set forth that crown main facets have the girdle vertex on one of the planes of the first set of dividing planes. The pavilion main facets have their girdle vertex on one of the planes of the second set of dividing planes. Applicant finds no teaching nor suggestion in the prior art of such an arrangement of vertexes of the crown and pavilion main facets.

The oval-cut diamond of the invention has an oval or oval-like girdle having a ratio of a short radius to a long radius of 0.6 or more and less than 0.95. The present invention also forms a straight central axis vertically crossing the table facet, and a first set of dividing planes composed of a central plane containing the central axis and a long axis of a contour line of a girdle cross-section, a short axis plane containing the central axis and a short axis of the contour line of the girdle cross-section and interim planes dividing an angle around the central axis between the plane containing the central axis and the short axis plane into two. Also, a second set of dividing planes are defined as planes dividing an angle around the central axis between two neighboring first set dividing planes into two. Each of eight crown main facets extends along each of the first set of dividing planes from the table facet, and each of the eight

pavilion main facets extends along each of the second set of dividing planes from the bottom apex. Two crown main facets positioned opposite to each other with respect to the central axis and the table facet cross vertically one of the first set of dividing planes, and the two crown main facets and the table facet have a common plane vertical to all of the two crown main facets and the table facet within the two crown main facets and the table facet. And, two pavilion main facets positioned opposite to each other with respect to the central axis and the table facet cross vertically one of the second set of dividing planes, and the two pavilion main facets and the table facet have a common plane vertical to all of the two pavilion main facets and the table facet within the two pavilion main facets and the table facet. The oval-cut diamond shows a strength of reflection light almost equal to that of a round brilliant cut diamond.

A round brilliant cut diamond that has a circular girdle, and a square girdle diamond can have a common vertical plane within two pavilion main facets which are positioned opposite to each other with respect to a central axis and a table facet of the round brilliant cut diamond or the square girdle diamond, and two crown main facets positioned opposite to each other with respect to the central axis and the table facet can have a common vertical plane within the two crown main facets and the table facet.

A conventional oval cut diamond, however, does not have a common vertical plane within two pavilion main facets positioned opposite to each other with respect to a central axis of the conventional oval cut diamond. Because of that, light coming into the oval cut diamond through the table facet or crown facets and reflected on a pavilion main facet does not proceed

to an opposite pavilion main facet. Also, because light reflected on a pavilion main facet does not go toward a crown main facet or the table facet, reflection strength is weakened, and brilliancy decreases.

Although the oval-cut diamond of the invention has an oval or oval-like girdle, the diamond can show reflection strength close to the round brilliant cut diamond because the diamond has a common vertical plane within two pavilion main facets of each of four pairs of pavilion main facets, of which each pair is composed of two pavilion main facets positioned opposite to each other with respect to a central axis of the oval-cut diamond, and a table facet, and also has a common vertical plane within two crown main facets positioned opposite to each other with respect to the central axis and the table facet.

Further, the oval-cut diamond of the invention may have the same angle of each of the eight pavilion main facets with the table facet and the same angle of each of the eight crown main facets with the table facet, so that a pattern of reflection light is symmetric.

Itzkowitz depicts facets in crowns and pavilions of a round brilliant cut diamond, a pear-shaped diamond, a marquise diamond (Figs. 2c and 3c) and an oval diamond (Figs. 2d and 3d). Figs. 2c, 2d, 3c and 3d show facets in crowns and pavilions of the marquise diamond and the oval diamond, but with respect to crown main facets and pavilion main facets interposed between their long axes and short axes in the drawings, it is not shown that two pavilion main facets disposed opposite to each other with respect to a central axis and a table facet have a common vertical plane within them, nor that two crown main facets disposed opposite to each other with respect to the central axis and the table facet have a common vertical plane within

them.

It can be understood from Figs. 2c and 3c that the two pavilion main facets and the two crown main facets extending along the long axis of the marquise diamond cross vertically a common plane, and that the two pavilion main facets and the two crown main facets extending along the short axis of the marquise diamond cross vertically a common plane. But, among pairs of two pavilion main facets and pairs of two crown main facets, of which a pair is composed of two pavilion or crown main facets positioned opposite to each other with respect to the central axis, it is not understood whether a pair of pavilion main facets and a pair of crown main facets interposed between the long and the short axes, that is, disposed diagonally, have a common vertically crossing plane or not. Itzkowitz does not include any description about directions of those facets, either.

It can be understood from Figs. 2d and 3d that the two pavilion main facets and the two crown main facets extending along the long axis of the oval diamond cross vertically a common plane and that the two pavilion main facets and the two crown main facets extending along the short axis of the oval diamond cross vertically a common plane. But, among pairs of two pavilion main facets and pairs of two crown main facets, of which a pair is composed of two pavilion or crown main facets positioned opposite to each other with respect to the central axis, it is not understood whether a pair of pavilion main facets and a pair of crown main facets interposed between the long and the short axes, that is, disposed diagonally, have a common vertically crossing plane or not. Itzkowitz does not include any description about directions of those facets, either.

Therefore, Itzkowitz fails to disclose that two pavilion main facets positioned opposite to each other with respect to a central axis and a table facet have a common vertical plane within them and that the two crown main facets positioned opposite to each other with respect to the central axis and the table facet have a common vertically crossing plane within them.

Further, Itzkowitz does not disclose the concept of a first set and a second set of dividing planes. Itzkowitz does not disclose the relationship between pavilion main facets and the second eight-dividing planes, either. By contrast, in the preferred embodiment of the invention, a first set of dividing planes along which crown main facets extend and second set of dividing planes along which pavilion main facets extend have a difference of 22.5°. So, the oval-cut diamond of the invention differs from that of Itzkowitz.

Kedem discloses that two pavilion main facets positioned opposite to each other with respect to a central axis and a table facet have a common vertically crossing plane within them, and that two crown main facets positioned opposite to each other with respect to the central axis and the table facet have a common vertically crossing plane within them.

However, what Kedem discloses is a rectangular-girdle diamond with a round crown and a round pavilion, precisely a square-girdle diamond with a round crown and a round pavilion. However, in a general diamond with an oval or oval-like girdle, two pavilion main facets 846 extending diagonally do not have a common vertically crossing plane within them, as explained in Specification, paragraph [00761].

The invention provides a diamond with an oval or oval-like girdle in which even two pavilion main facets interposed between a long axis and a short axis of a contour line of a

girdle cross-section and diagonally extending have a common vertical plane to enhance reflection strength.

Although a diamond with a round or square girdle has a common vertical plane within two pavilion main facets which are positioned opposite to each other with respect to a central axis and a table facet, a general oval-cut diamond does not have a common vertical plane. Particularly, a diamond with an oval or oval-like girdle which has a smaller ratio of a short radius to a long radius of the oval or oval-like girdle does not have such a common vertical plane. Even when it is an oval-cut diamond, the diamond with a girdle shape of a short-long radius ratio of 0.95 or more and close to round can have a nearly common vertical plane within two pavilion main facets and a table facet, though the nearly common vertical plane is not precisely common and vertical. So, the oval-cut diamond can provide reflection strength close to that of a round brilliant cut diamond. But, when the ratio of a short radius to a long radius becomes less than 0.95, the common plane of the facets deviates from vertical and the reflection strength decreases.

Therefore, the oval-cut diamond of the present invention, despite an oval or oval-like girdle with a short-long radius ratio of 0.6 or more and less than 0.95, shows enhanced brilliancy by having a common vertical plane within the two pavilion main facets positioned opposite to each other with respect to a central axis and the table facet, and also a common vertical plane within the two crown main facets positioned opposite to each other with respect to the central axis and the table facet.

The present invention provides an oval shaped diamond which can better take

advantage of a raw diamond's shape, thus making for a larger finished diamond, while still keeping most of the brilliancy that is optimally obtained by round diamonds. The present invention is an improvement over prior art oval shaped diamonds and therefore worthy of patent protection.

Kedem applies the concept of determining configurations of pavilion main facets and pavilion angles by a circle circumscribing a contour line of a girdle to a diamond with a round pavilion, but it is not taught that the concept can be applied to Itzkowitz oval diamond.

Applicant wishes to point out that many of the statements made in the Office Action appear to be incorrect.

(a) We believe it wrong that Itzkowitz oval diamond has eight-dividing planes. Itzkowitz does not show a plane dividing an angle between a long axis plane and a short axis plane in Figs. 2c and 2d of Itzkowitz into two. So, Itzkowitz fails to disclose the concept of eight-dividing planes applied to Itzkowitz oval diamond. What the rejection states in connection with eight-dividing planes in the Office Action are wrong. For example: "The diamond has - - - - eight-dividing planes (Figs. 2c, 2d, 3c, 3d, 4c and 4d)." at lines 5 - 6 of page 4. "The eight-dividing planes are composed of - - - - planes dividing an angle around the central axis between the plane containing the short axis and the central axis and the central plane equally into two (Figs. 2c, 2d, 3c, 3d, 4c and 4d)." at lines 10 to 14 of page 4. "Each of the crown main facets is a tetragon having two opposite vertexes composed of a point, at which each of the eight-dividing planes crosses the girdle upper ridge and - - - - (Figs. 2c, 2d, 4c and 4d)." at line 20 of page 4 to line 2 of page 5. "Each of the pavilion main facets is a tetragon

or a part of a tetragon extending from the bottom apex toward a crossing point of each of the eight-dividing planes with the girdle lower ridge, - - - - (Figs. 3c, 3d, 4c and 4d)." at lines 12 to 17 of page 5. "Each of at least seven pavilion main facets among the pavilion main facets is formed with opposite vertexes composed of a crossing point of each of the eight-dividing planes with the girdle and the bottom apex (Figs. 2c, 2d, 3c, 3d, 4c and 4d)." at lines 17 to 20 of page 5.

(b) Since two pavilion main facets and a table facet of Itzkowitz do not necessarily have a common vertical plane, and two crown main facets and the table facet do not necessarily have a common vertical plane, as discussed above, the statement of lines 7 to 13 of page 6 of the Office Action is wrong, which is: "Each pair of pairs of pavilion main facets, of which each pair is composed of two pavilion main facets positioned opposite to each other with respect to the central axis and the table facet have a common plane vertical to all of them within them and each pair of pairs of crown main facets, of which each pair is composed of two crown main facets positioned opposite to each other with respect to the central axis and the table facet have a common plane vertical to all of them within them (Figs. 2c, 2d, 3c, 3d, 4c and 4d)."

(c) Since a depth of all the crown main facets, that is, heights from a table facet to an upper girdle ridge (upper girdle cross-section) are the same, but lengths of the crown main facets projected on the girdle cross-section are different, crown angles of the crown main facets are not the same. So, the description of lines 17 to 18 of page 10 of the Office Action is wrong, which is: "Each of the crown main facets as disclosed by Itzkowitz has the substantially a substantially equal crown angle to the table facet (Figs. 2c, 2d, 3c, 3d, 4c and 4d)."

If the Examiner has any comments or suggestions which would further favorable prosecution of this application, the Examiner is invited to contact applicant's representative by telephone to discuss possible changes.

At this time applicant respectfully requests reconsideration of this application, and based on the above amendments and remarks, respectfully solicits allowance of this application.

Respectfully submitted
for Applicant,

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